
SPECIFICATION:

Page 1, Applicant's details, replace with the following new paragraph:

Viktor Kaptelinin,

Swedish Russian citizen,

Mariehemsvägen 13A, Stipendiegränd 2F-0101,

906 54 907 35 Umeå, SWEDEN.

Page 1, cross-reference to related applications, replace with the following new paragraph:

Non-provisional Patent Application of Viktor Kaptelinin, Ser. Nr. 09/915,075
filed July 25, 2001, and later abandoned

Page 4, last paragraph, delete the last sentence:

For example, as shown in FIG. 1B, scrolling through a text by a large increment, by clicking on the scroll shaft 14 or by pressing a PageDn key on a keyboard (not depicted in FIG. 1), may result in displaying a new portion 18 of the content 12 in the window 10; the portion 18 begins with two lines of text that overlap from the portion 12. ~~The Windows Interface Guidelines for Software Design (The Microsoft Development Network (MSDN) Library Visual Studio 6.0) contains the following guidelines for designing scrolling windows:~~

Page 5, first paragraph, delete the whole paragraph:

~~"Where possible, allow overlap from the previous view... For example, if the user clicks below the scroll box, the bottom line becomes the top line of scrolled view. The same thing applies for clicking above the scroll box and horizontal scrolling. These conventions provide the user with a common reference point." (Chapter 6, Windows).~~

Page 6, first paragraph, delete the last sentence:

This strategy is more effort and time consuming comparing to relying on visual clues for locating new information. ~~However, the latter is practically not supported by existing scrolling windows.~~

Page 6, second paragraph, delete the whole paragraph:

~~The present invention addresses the above problem by providing a user with "temporary visual clues", that is, visual clues temporarily displayed in a window after scrolling to help a user locate new contents displayed in the scrolled window. A major concern of the present invention is how to avoid possible distraction of a user from his or her main task, caused by temporary visual clues.~~

Page 6, after the first paragraph, add the following new paragraphs:

A computer application Lotus Notes™ displays a short line on the left margin of a text as a clue indicating the location of newly displayed information in a window. The user has to look away from the text to pay attention to the clue. Besides, since the clue does not automatically disappear and remains visible, the user is likely to learn to ignore the clue.

US Patent No. 6, 476, 831 to Wirth et al describes a technique, which makes use of a transient semi-transparent overlay superimposed on new areas of a scrolled document displayed in a window after scrolling. The overlay temporarily obstructs the view of newly displayed areas of the document. In case of whole page scrolling the overlay may change visual appearance of a large area of a window.

US Patent No. 6,738,084 to Kelley et al. describes a technique, which makes it possible for a user to insert a reference marker in a window displaying a document, which causes a first representation appear at the insertion point and a second representation appear in a scroll bar area at the location corresponding to the position of the insertion point within the document as a whole. The user can easily return to the marked point by pointing to the second representation on the scroll bar.

US Patent No. 5,973,663 to Bates et al. discloses a scroll bar whose appearance changes over time. When a portion of window related information is displayed, a corresponding area of the scroll bar is "warming up": the longer the portion is displayed, the higher the "temperature." When the user scrolls to

Kaptelinin

Amendment C

Page 4 of 32

a different portion of the document, a new area of the scroll bar is "warming up," while other areas "cool down."

None of the above techniques provides temporary visual clues, displayed immediately after scrolling and not obstructing the view of new, not presented before scrolling, information by visually differentiating old and new information in a window.

Page 6, third paragraph, first sentence, replace with the following new sentence:

The present invention provides a method and apparatus ~~a system and method~~ for aiding a user in viewing information on a computer system including a display.

Page 6, third paragraph, delete one word as follows:

The visual clues are ~~preferably~~ provided for a predetermined amount of time.

Page 7, first paragraph, replace with the following new paragraph:

Kaptelinin, V., Mäntylä, T., Åström, J. (2002). Transient visual clues for scrolling: An empirical study. CHI 02: ACM Conference on Human Factors in Computing Systems, Extended Abstracts, pp. 620-621, (submitted for publication)

Page 7, second paragraph, delete the whole paragraph:

~~The Windows Interface Guidelines for Software Design (The Microsoft Development Network (MSDN) Library Visual Studio 6.0)~~

Page 7, third paragraph, replace with the following new paragraph:

Ware, C. (1999). Information Visualization: Perception for Design. San Francisco: Morgan Kaufmann, pp. 163-168, 1999.

Page 7, fourth paragraph, delete the whole paragraph:

~~Wolf, J. M. Visual Search. In: H. Pashler (ed.) Attention. Hove, UK: Psychology Press, 1998.~~

Page 7, fifth paragraph, replace with the following new paragraph:

Åström, J. (unpublished manuscript). Lättläst på dataskärmen - Transienta visuella ledtrådar som hjälpmedel. Umeå Universitet, Institutionen för Psykologi, C-Uppsats vt-01, 2001.

Page 9, after the section title, delete the sub-title:

DETAILED DESCRIPTION OF THE INVENTION

~~Underlying Ideas~~

Page 9, fourth paragraph, replace with the following new paragraph:

The underlying ideas of approach underlying the present invention can be described as follows.

Page 12, second paragraph, delete the whole paragraph:

~~Of course, more accurate evaluations of processed information are theoretically possible. Analysis of user's eye movements appears to be an especially promising method. Such an analysis can reveal which information has been effectively processed by a user before scrolling and help provide effective visual clues after scrolling, which would direct user's attention to information that he or she has not processed yet, even if this information had been already presented to the user before scrolling.~~

Page 13, last paragraph, delete one word as follows:

1. The first preferred embodiment: Visual de-emphasis of apparently processed information

Page 14, last paragraph (extends to page 15), delete the expression in parentheses as follows:

For instance, Microsoft Windows provides functions, such as GetConsoleScreenBufferInfo, to determine the currently visible area of a screen buffer (~~MSDN Library Visual Studio 6.0, Platform SDK, Windows Base Services~~).

Page 21, second paragraph, second sentence, delete one word as follows:

The method 350 is ~~[[very]]~~ similar to method 100.

Page 26, third paragraph, first sentence, replace with the following new sentence:

The object of the disclosed invention is expected to make viewing information on various types of screens, displays, monitors, and windows more convenient.

Page 27, last paragraph, second sentence, delete one word as follows:

The image that serves as a placeholder for processed information, that is, ~~[[is]]~~ the image presented immediately after scrolling

Page 29, third paragraph, second sentence, replace with the following new sentence:

Besides, marginal markers can be implemented so that their orientation indicates a direction relative to a marker, in which direction the side of a ~~marker, on which~~ not processed information is located.

Page 31, last paragraph, delete the whole paragraph:

~~A version of the first embodiment of the invention was implemented by the inventor as a computer program written in Visual Basic 6.0. This version has been tested in an experiment conducted by the inventor together with Timo Mäntylä and Jan Åström at the Department of Psychology, Umeå University, Sweden, during the Spring 2001 (Åström, 2001; Kaptelinin et al, submitted for publication). Subjects participating in the study were asked to read aloud a story presented on a computer display. In order to view the whole text the subjects had to scroll the text several times during reading. It was shown that there was a statistically significant difference in the number of reading aloud disruptions occurred immediately after scrolling in two conditions: (1) a regular scroll bar window, and (2) a window providing means for aiding a user in viewing information in a window in accordance with the present invention. The number of reading aloud disruptions in the second condition was~~

~~approximately one fifth of the number of disruptions in the first condition. This evidence indicates that the present invention may be practically useful to users of information technologies.~~

Page 42, Abstract, second sentence, replace with the following new sentence:

Said visual clues do not obscure not processed information, are displayed temporarily and are disabled after a predetermined amount of time.